

SCIENCE & ENGINEERING RESEARCH ACADEMY

2019 Capstone Seminar Proceedings



2019 Science & Engineering Research Academy

Capstone Seminar

Friday, July 26, 2019

Analyzing the Factors Affecting Community Crime Rates in the United States

Cami Chou, Vani Pandian, Dylan Chhay, Hawk Veluz

The Potential of a Distinct Species of Non-Human Model Organisms for Neurodegenerative Diseases

Audrey Wong, Mrinalini Mishra, Eric Zhang, Ayush Bajaj

Analyzing the Correlation Between Bitcoin Prices and Various Social and Economic Circumstances

Alexander Leonardi, Jack Hughes, Justin Samovar, William Leung

Measuring Public Perception of GMOs: Implications for Safety, the Global Food Supply, Environment, and Labeling Regulations

Arden Hallett, Kehan Liu, Jiya Nandwana, Alana Mohammed

Utilizing Graph Based Semi Supervised Learning to Model Propagation on Twitter

Andy Yu, Ken Shem, Marco Persi, Ishita Ghosh

Rising Ocean Temperatures Causes *Eschrichtius Robustus* and *Megaptera Novaeangliae* to Migrate Earlier and Farther from Shore

Xander Patel, Salome Pintado, Maya Mathur, Jack Duerk

The Propagation of Malware Within Computer Networks

Siddarth Maddhula, Kushal Kodnad, Wilson Ting, Vedang Joshi

Using Population Genetics Methods to Review the Causes and Treatments of Skin Cancer

Joanne Lioe, Aly Bijani, Sheikh Mahmud, Joselyn Martinez

Biomagnification of Plastic Pollution and the Detrimental Effects on Marine and Human Health

Sara Schwegel, Lucy Langholz, Anna Li, Vanessa Camarena

Studying Likelihood of a Piece of Legislation Being Passed

Sarah Liu, Mia Chou, Katie Falek, Jennifer Yin

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Direct to Consumer Testing: the Controversies and Ethics Behind You

Brenna Hudson, Yu Harishima, Mathilda Han, Roshini Gopala

Investigating the Important Factors Determining a Book's Popularity

Rohan Vaidya, Siddhant Arora, Johann Lee, Matthew Lee

The Shortcomings of the UN: The Case of China's Uyghur Re-Education Camps

Marissa English, Julian Ha, Ryan Suh, Debby Lee

The Combination of Source Control and Water Aeration Is the Most Effective Method of Eutrophication Prevention

Edwin Yee, Althea Bennett, Calvin Kang, Colin Mequet

Twitter Sentiment Analysis to Predict the Popular Vote of Presidential Elections Candidates

Gautham Rajesh, Mahit Tanikella, Parth Shisode, Kaushal Amancherla

Genocide and the Culpability of Willful Ignorance

Gia-Uyen Tran, Neharika Rao, Ella Wang, Anna Niu

Climate Change Decreases Species Richness in Kelp Wrack and Sandy Beach Communities

Marguerite Montagner, Michael Lin, Alyssa Garciano, Paige Good

Differences in Temperature Induced Bleaching Between Acropora and Porites Corals

Jasmine Vallejo, Francesca Fee, Kira Schlieman, Eric Hu

Censorship, International Law, and Freedom of Speech: Towards a More Transparent Cyberspace in Post-Revolution Egypt

Yixiao Wang, Marco Chan, Ian Lau, Mae Lampitoc

Global Climate Change Threatens Biodiversity and *Pisaster Ochraceus* Population Within the Rocky Intertidal Region

Karen Mendoza, Sabrina Grant, Ava Milliken, Summer Smentek

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ClipSynth: A Tool for Generating Instruments from Audio Recordings with Live Effect Manipulation Using Sensors

Kento Nishi, Alec Chen, Arul Shrivastava, Guthrie Leonard

Artificial Coral Reefs: Coral Distribution and Biodiversity

Myriam Ramirez, Monserrat Lupian, Brynne Stevens, Angela Cai

Creating Calm Spaces to Reduce Stress: How to Encourage Calmness Through Digital Architecture

Pauline Arnoud, Jeremy Nelson, Cionnie Pineda, Ezzat Suhaime

International Cooperation or The Pursuit of Self-Interest: Climate Change, the United States and the Paris Agreement

Mara Van Tassell, Kate Lewis, Samantha Zagha

Assistive Art Creation: Audio-Reactive Artistic Expression for Users with Limited Mobility

Andrew Park, Alan Zhang, Richard Xu

Settling International Trade Disputes: A Guide to Resolving the US-China Trader War

Ahmed Shekhani, Tanisha Sapra, Jiayi Ruan, Zihan Xia

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Audio-Reactive Kinetic 3D Structure: A New Way to Experience Sound Frequency

Arianna Moussavi, Varshitha Daggolu, Ryan Shue

Refugees Under Pressure: The Refugee Crisis at the American-Mexican Border

Amulya Bhattaram, Jenna Cameron, Alexis Lozano

Comparing Genetic Variation Within and Between Human Populations

Rachel Cameron, Ethan Huang, Krisha Thakur, Priyanka Pulikeshi

SeeRise: An Eco-Sculpture Driven by Global Warming Data

Sabrina Kim, Bella Vasquez, Jared Bautista, Jaden Garrett

The Role of DNA Methylation on Gene Expression in Relation to Mental Disorders

Tim Jing, Sohan Talluri, Lillian Weng, Harrison Good

Exploring Psychoacoustics: Music Composition and Human Perception

Annabelle Yao, Joshua Chang, Sidney Suh, Vishal Vijay

Editing the Human Germline: Ethics, Applications, and Implications for the Future

Washington Huang, Alex Coleman, Sarah Wang, Kaya Cerecedes

Graffiti Keys: A New Interface for Collaborative Artistic Expression

Anjeli Macaranas, Liam Ginsberg, Lily Taylor, Alexei Linger